

Notice of Allowability	Application No.	Applicant(s)	
	10/075,956	MEYER ET AL.	
	Examiner	Art Unit	
	Amelia A. Owens	1625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to response filed 10/24/2005.
2. ☒ The allowed claim(s) is/are 1-11.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ 7. <input type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input checked="" type="checkbox"/> Other <u>NO DRAWINGS</u>. |
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REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

1. Claims 1-11 are pending.
2. The rejection of claims 1-11 under 35 USC 103 is dropped as applicants remarks are persuasive.
3. The instantly claimed dihydropyrones are an intermediate used to produce tipranavir, an HIV protease inhibitor.
4. The prior art neither teaches nor suggests the process for preparing dihydropyrones. Novelty resides in the use of a micromixer that produces high degree of purity and improved yield of the product.

Turner starts with a slurry. Slurries are suspensions – a system in which very small particles are more or less uniformly dispersed in liquid or gaseous medium. Slurries are not suited to be employed in micromixers due to the narrow channels and thin walls of the mixing elements. See NEWSFRONT, (already of record) page 30 column 3 last paragraph; see Kamper (already of record) page 340, that teach microfluidic systems require the use of very clean and essentially particle free fluids. This teaches away from the use of slurries in micromixers. The prior art therefore discourages the use of slurries in micromixers.

Ehrfeld describes a test reaction for characterizing micromixers. See discussion. The purpose of Ehrfeld is to characterize optimal working conditions for micromixers per se. See page 1075 column 2 last paragraph. The general advantage of micromixers is to carry out chemical reactions where large scale processing would be risky or inefficient. See NEWSFRONT, page 30 column 1. Another advantage is for chemical reactions that demand high heat flow and would otherwise be too fast or uncontrollable. The Turner process is not such a process. Note the reaction time given by Turner is one hour at 0 degrees Celsius. Ehrfeld at page 1075 column 1 2nd paragraph teach an advantage of micromixers is the extremely short time interval for reactions. There is no motivation to select the Turner process, out of all known chemical processes, for use in a micromixer. Thus motivation is lacking to employ micromixers for the Turner process.

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The data in the specification shows higher yield than that obtained in the Turner process. Thus, for the above reasons motivation is lacking to adapt micromixers to the claimed Turner process of producing dihydropyrones.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amelia A. Owens whose telephone number is 571-272-0690. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia J. Tsang can be reached on 571-272-0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Amelia A. Owens
Primary Examiner
Art Unit 1625